

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US04/06123

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

- international search (under Rules 12.3 and 23.1(b))
- publication of the international application (under Rule 12.4)
- international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

the international application as originally filed/furnished

the description:
pages 1-12 as originally filed/furnished
pages* NONE received by this Authority on _____
pages* NONE received by this Authority on _____

the claims:
pages NONE as originally filed/furnished
pages* NONE as amended (together with any statement) under Article 19
pages* 13-17 received by this Authority on 25 April 2005 (25.04.2005)
pages* NONE received by this Authority on _____

the drawings:
pages 27-77 as originally filed/furnished
pages* 1/7 received by this Authority on 25 April 2005 (25.04.2005)
pages* NONE received by this Authority on _____

a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

- the description, pages NONE _____
- the claims, Nos. 32-34 _____
- the drawings, sheets/figs NONE _____
- the sequence listing (specify): NONE _____
- any table(s) related to the sequence listing (specify): NONE _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages _____
- the claims, Nos. _____
- the drawings, sheets/figs _____
- the sequence listing (specify): _____
- any table(s) related to the sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

Form PCT/IPEA/409 (Box No. I) (January 2004)

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1-31	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims 1-31	YES
	Claims <u>NONE</u>	NO
Industrial Applicability (IA)	Claims 1-31	YES
	Claims <u>NONE</u>	NO

2. Citations and Explanations (Rule 70.7)

Claims 1-18 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest an apparatus for wetting and drying test specimens, the apparatus comprising a multiple blower system and a temperature controller where the temperature controller receives data from a first temperature sensor and a second temperature sensor and controls the blower system in response to the data received, in combination with the remaining aspects of the claims.

Claims 19-31 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest an accelerated weathering apparatus having a test chamber, a timer in electrical communication with the lamp, and a method for generating the effect of corrosive solution on a test specimen, the method comprising positioning the test specimen horizontally on a specimen support, and wetting the test specimen by a fluid dispenser with a corrosive solution such that drops form on a surface of the specimen so as to simulate acid rain falling onto a horizontal car hood and forming droplets, in combination with the remaining aspects of the claims.

Claims 1-31 meet the criteria set out in PCT Article 33(4), and thus the accelerated weathering apparatus has industrial applicability because the subject matter claimed can be made or used in industry to test a paints resistance to different weather conditions.

----- NEW CITATIONS -----

Claims:

1. An apparatus for wetting and drying test specimens, the apparatus comprising:
 - a test chamber;
 - a lamp capable of generating UV radiation in the test chamber;
 - a first dispenser adapted to connect to an associated liquid source, the first dispenser being disposed in the test chamber;
 - a controller in communication with the first dispenser for controlling the dispenser; and
 - a specimen support disposed in the test chamber for supporting an associated test specimen, wherein the specimen support is disposed in relation to the lamp such that radiation emitted from the lamp contacts the associated specimen supported by the specimen support, wherein the specimen support is disposed in relation to the first dispenser such that liquid dispensed from the first dispenser contacts the associated specimen supported by the specimen support;
 - a first temperature sensor disposed in or adjacent the test chamber;
 - a second temperature sensor disposed in or adjacent the test chamber;
 - a multiple blower system in fluid communication with the test chamber;
 - a temperature controller in communication with the temperature sensors and the blower system, wherein the controller receives data from the first temperature sensor and the second temperature sensor and controls the blower system in response to the data received from the temperature sensors.
2. The apparatus of claim 1, further comprising a timer in electrical communication with the lamp, whereby the lamp can be cycled to simulate day or night.
3. The apparatus of claim 1, further comprising a humidifier in fluid communication with the test chamber, a humidity sensor in or adjacent the test chamber and a humidifier controller in communication with the humidity sensor and the humidifier.
4. The apparatus of claim 3, further comprising a timer in electrical communication with the lamp, whereby the lamp can be cycled to simulate day or night.

5. The apparatus of claim 1, wherein the lamp comprises a xenon lamp.
6. The apparatus of claim 1, wherein the specimen support is adapted to support the associated test specimen at an angle less than 10° from horizontal.
7. The apparatus of claim 1, further comprising a dimmer in electrical communication with the lamp to control the irradiance of the lamp and an irradiance sensor disposed in the test chamber and in electrical communication with the dimmer.
8. The apparatus of claim 1, further comprising, a heater in communication with the test chamber, wherein the temperature controller is in communication with the heater.
9. The apparatus of claim 8, wherein the first temperature sensor comprises an air temperature sensor and the second temperature sensor comprises a black panel sensor.
10. The apparatus of claim 8, wherein the blower system includes a blower and damper.
11. The apparatus of claim 8, wherein the blower system includes two blowers.
12. The apparatus of claim 11, wherein the temperature controller communicates with one of the two blowers to control the blower in response to data received from the black panel sensor and the temperature controller communicates with the other one of the two blowers to control the other blower in response to data received from the air temperature sensor.
13. The apparatus of claim 11, wherein the temperature controller communicates with heater in response to data received from the air temperature sensor.

14. The apparatus of claim 8, wherein the temperature controller is adapted to control the blower system and heater to allow for the cycling of temperature.
15. The apparatus of claim 1, further comprising a second dispenser adapted to connect to an associated water source.
16. The apparatus of claim 1, wherein the first dispenser comprises a nozzle for spraying the associated test specimens.
17. The apparatus of claim 16, further comprising a timer in electrical communication with the lamp, whereby the lamp can be cycled to simulate day or night.
18. The apparatus of claim 16, further comprising a temperature sensor disposed in or adjacent the test chamber, a heater in communication with the test chamber, a blower system in fluid communication with the test chamber and a temperature controller in communication with the temperature sensor, the heater and the blower system, wherein the temperature controller is adapted to control the blower system and heater to allow for the cycling of temperature.
19. In an accelerated weathering apparatus having a test chamber, a specimen support disposed in the test chamber, a lamp emitting radiation into the test chamber, a timer in electrical communication with the lamp, a temperature sensor disposed in or adjacent the test chamber, an air heater in communication with the test chamber and a fluid dispenser, a method for generating the effect of a corrosive solution on a test specimen, the method comprising:
 - positioning the test specimen at least substantially horizontally on the specimen support;
 - wetting the test specimen with a corrosive solution such that drops form on a surface of the test specimen;
 - selectively emitting radiation from the lamp towards the test specimen; and
 - controlled drying of the test specimen.

20. The method of claim 19, wherein the step of wetting further comprises spraying the test specimen with the corrosive solution.
21. The method of claim 20, further comprising wetting the test specimen with water.
22. The method of claim 19, wherein the step of controlled drying further comprises controlling the air temperature in the test chamber.
23. The method of claim 22, wherein the step of controlled drying further comprises cycling the air temperature in the test chamber between at least two temperatures.
24. The method of claim 22, wherein the step of controlled drying further comprises controlling the black panel temperature in the test chamber.
25. The method of claim 24, wherein the step of controlled drying further comprises cycling the black panel temperature between at least two temperatures.
26. The method of claim 24, wherein the step of controlled drying further comprises controlling the air temperature and the black panel temperature in the test chamber using a multiple blower system.
27. The method of claim 24, wherein the step of controlled drying further comprises controlling the air temperature and the black panel temperature in the test chamber using a blower and damper system.
28. The method of claim 19, wherein the step of controlled drying further comprises controlling the relative humidity inside the test chamber.
29. The method of claim 19, wherein the step of selectively emitting radiation further comprises emitting UV radiation.

30. The method of claim 29, wherein the step of selectively emitting radiation further comprises cycling the lamp in dark and light cycles.

31. The method of claim 19, wherein the step of wetting the test specimen comprises wetting the test specimen with a solution that simulates acid rain.

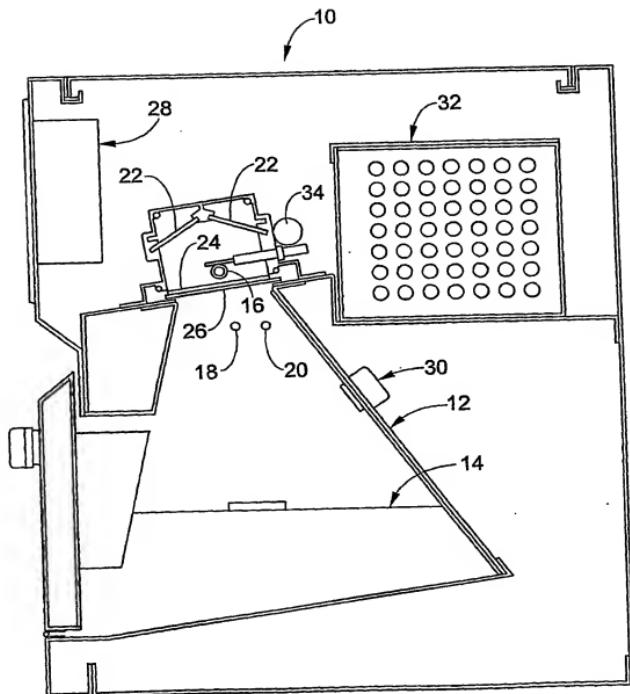


FIG. 1